



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/649,152

08/27/2003

Harald Post

1810US01

5019

43896

7590

01/14/2009

ECOLAB INC.

MAIL STOP ESC-F7, 655 LONE OAK DRIVE

EAGAN, MN 55121

EXAMINER

MAYO, TARA L

ART UNIT

PAPER NUMBER

3671

MAIL DATE

DELIVERY MODE

01/14/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte HARALD POST

Appeal 2008-4439
Application 10/649,152
Technology Center 3600

Decided: January 13, 2009

Before JENNIFER D. BAHR, LINDA E. HORNER, and STEFAN
STAICOVICI *Administrative Patent Judges*.

STAICOVICI, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Harald Post (Appellant) appeals under 35 U.S.C. § 134 from the Examiner's decision rejecting claims 16-18 and 20-45. Claim 19 has been canceled. We have jurisdiction over this appeal under 35 U.S.C. § 6 (2002).

THE INVENTION

The Appellant's claimed invention is directed towards a rescue underlay mat 4 that is disposed underneath a mattress 1 and has approximately the dimensions of the mattress 1 (Spec. 4, ll. 13-15 and 17-18 and fig. 1). The rescue underlay mat 4 is made from a plastic material having a high tensile strength such as a spacer woven fabric or a spacer knitted fabric (Spec. 4, l. 16; Spec. 5, ll. 28-31; fig. 4b). A spacer woven fabric is a material that has two fabric cover layers which are held at a spacing of a few millimeters by distance maintaining bridge threads (Spec. 2, ll. 34-36).

Claim 16 is illustrative of the claimed invention and reads as follows:

16. A rescue underlay for a mattress comprising:
- a. a substantially flat material comprising spacer woven fabric having at least two layers spaced apart by bridge threads and providing spring travel, wherein the material is substantially the size of a mattress;
 - b. at least one pull member; and
 - c. at least one patient securing belt.

THE REJECTIONS

The Examiner relies upon the following as evidence of unpatentability:

Hemphill	US 5,150,487	Sep. 29, 1992
Böttger	US 5,582,893	Dec. 10, 1996
Failor	US 5,860,174	Jan. 19, 1999

The following rejections are before us for review:

The Examiner rejected claims 16-18 and 20-45 under 35 U.S.C. § 112, second paragraph, as being indefinite.¹

The Examiner rejected claims 16-18, 20-24, 26-28, 30, 31, and 33-45 under 35 U.S.C. § 103(a) as unpatentable over Hemphill in view of Böttger.

The Examiner rejected claim 25 under 35 U.S.C. 103(a) as unpatentable over Hemphill in view of Böttger and in further view of Failor.

THE ISSUES

1. Has the Appellant shown that the Examiner erred in finding the limitation of “wherein the material is substantially the size of a mattress,”² as recited in independent claims 16, 43, 44 and 45, renders the claims indefinite under 35 U.S.C. § 112, second paragraph?
2. Has the Appellant shown that the Examiner erred in combining the teachings of Hemphill and Böttger to arrive at the claimed

¹ This is a New Ground of Rejection presented by the Examiner in the Examiner’s Answer, mailed December 13, 2007. Although on page 3 of the Examiner’s Answer it is stated that “Claims 16 through 45 are rejected under 35 U.S.C. 112, second paragraph,” claim 19 was canceled in the Amendment filed October 8, 2004. The Examiner’s statement is considered a typographical error and for the purpose of this appeal we shall consider that the Examiner rejected claims 16-18 and 20-45 under 35 U.S.C. § 112, second paragraph.

² The Examiner erred when reciting the alleged indefinite limitation. Specifically, the Examiner writes on page 3 of the Answer that the indefinite limitation of claims 16, 43, 44, and 45 is, “wherein the mattress is substantially the same size of a mattress” (underlining added). It appears that the Examiner substituted the term “mattress” for the term “material.” We consider this to be a typographical error on the part of the Examiner.

invention? The issue turns on whether the Examiner has established a prima facie case that it would have been obvious for one of ordinary skill in the art to modify the evacuation restraint of Hemphill with the spacing fabric of Böttger?

3. Has the Appellant shown that the Examiner erred in combining the teachings of the Hemphill, Böttger, and Failor to arrive at the claimed invention?

SUMMARY OF DECISION

We AFFIRM-IN-PART.

FINDINGS OF FACTS

The following enumerated findings of facts (FF) are supported by at least a preponderance of the evidence. *Ethicon, Inc. v. Quigg*, 848 F. 2d 1422, 1427 (Fed. Cir. 1988) (explaining the general evidentiary standard for proceedings before the Office).

1. Hemphill discloses an evacuation restraint that is positioned under the mattress M of a bed including a rectangular base sheet 1 of flexible fabric (polyester) and a relatively rigid support 2 that is secured centrally to the base sheet 1 (col. 1, ll. 8-11; col. 2, ll. 50-56; and fig. 1).
2. Hemphill further discloses that the rectangular base sheet 1 of flexible fabric (polyester) is relatively friction free due to a Teflon coating (col. 2, ll. 50-54).
3. The restraint of Hemphill further shows two straps 20 and 21 (patient securing belts) (fig. 1).

4. The rigid support 2 of Hemphill's restraint includes a central rectangular sheet 3 of corrugated board to the ends of which small rectangular pieces 4 and 5 are flexibly attached (col. 2, ll. 57-61 and figs. 1-2).
5. The rectangular base sheet 1 of flexible fabric (polyester) in the restraint of Hemphill is "substantially" the size of the mattress M (fig. 1).
6. The purpose of the rigid support 2 of Hemphill is to provide a relatively rigid flat surface to allow the evacuation restraint to slide over floors, stairs, and obstructions (col. 4, ll. 24-26).
7. The evacuation restraint of Hemphill is suitable for positioning under the mattress of a bed in a hospital or other institution housing bed-confined persons (col. 1, ll. 8-11).
8. The loops 16 and 19 of Hemphill's restraint connect the mattress to the base sheet 1 (underlay) when the loops 16 and 19 engage straps 22 and 23 to envelope the patient and the mattress (col. 3, ll. 21-27 and fig. 3).
9. Hemphill does not disclose any mechanism for securing the belts 20 and 21 when not in use.
10. Böttger discloses a woven spacing fabric 3 with woven layers 4, 5 attached to one another by fusible threads 6 that is used to reinforce sheet metal plates and other structural components (col. 1, ll. 44-47; col. 2, ll. 20-23; col. 4, ll. 34-37 and ll. 44-46; figs. 1, 1a, and 2). Böttger characterizes the spacing fabric as having "rigidity" (col. 2, l. 30).

11. Böttger further discloses using spacing fabric to reinforce structural components and “in particular, where only sections of a sheet metal plate or the like is to be reinforced” (col. 1, ll. 30-33).
12. In the Appellant’s invention the “underlay mat 4 has approximately the dimensions of the mattress 1” (Spec. 4, ll. 17-18 and fig. 1) and the underlay mat is secured to the mattress (Spec. 5, ll. 9-13).
13. Ease of sliding is an objective/problem addressed by the Appellant (Spec. 1, ll. 15-16 and Spec. 7, ll. 1-3).
14. In the Appellant’s invention the “mattress retaining band” is merely “connecting” the underlay mat to the mattress (Spec. 5, ll. 9-10).
15. The Appellant’s disclosure makes a distinction between the structure of a spacer "woven" fabric and a spacer "knitted" fabric, *i.e.*, the knitted fabric has a textile outer surface of greater width of stitch link (Spec. 3, ll. 1-3).

PRINCIPLES OF LAW

Claim construction

When construing claim terminology in the United States Patent and Trademark Office, claims are to be given their broadest reasonable interpretation consistent with the specification, reading claim language in light of the specification as it would be interpreted by one of ordinary skill in the art. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004).

We must be careful not to read a particular embodiment appearing in the written description into the claim if the claim language is broader than the embodiment. *See Superguide Corp. v. DirecTV Enterprises, Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004) (“Though understanding the claim language

Appeal 2008-4439
Application 10/649,152

may be aided by the explanations contained in the written description, it is important not to import into a claim limitations that are not a part of the claim. For example, a particular embodiment appearing in the written description may not be read into a claim when the claim language is broader than the embodiment.”) The challenge is to interpret claims in view of the Specification without unnecessarily importing limitations from the Specification into the claims. *See E-Pass Techs., Inc. v. 3Com Corp.*, 343 F.3d 1364, 1369 (Fed. Cir. 2003).

The transitional term “comprising”, which is synonymous with “including,” “containing,” or “characterized by,” is inclusive or open-ended and does not exclude additional, unrecited elements or method steps. *Mars Inc. v. H.J. Heinz Co.*, 377 F.3d 1369, 1376 (Fed. Cir. 2004).

Indefiniteness

A specification must conclude with claims "particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention." 35 U.S.C. § 112, ¶ 2 (2000). The essence of the requirement under 35 U.S.C. § 112, second paragraph, that the claims must be definite, is that the language of the claims must make it clear what subject matter the claims encompass. *In re Hammack*, 427 F.2d 1378 (CCPA 1970).

The test for definiteness under 35 U.S.C. § 112, second paragraph, is whether "those skilled in the art would understand what is claimed when the claim is read in light of the specification." *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1576 (Fed. Cir. 1986) (citations omitted).

The primary purpose of the definiteness requirement is to ensure that the claims are written in such a way that they give notice to the public of the

Appeal 2008-4439
Application 10/649,152

extent of the legal protection afforded by the patent, so that interested members of the public, e.g., competitors of the patent owner, can determine whether or not they infringe. *All Dental Prodx, LLC v. Advantage Dental Prods'*, 309 F.3d 774, 779-80 (Fed. Cir. 2002).

Non-Analogous Art

“‘A reference is reasonably pertinent if, even though it may be in different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem.’ *In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992). In other words, ‘familiar items may have obvious uses beyond their primary purposes.’ *KSR Int’l. Co. v. Teleflex, Inc.*, 550 U.S. 398, ___, 127 S. Ct. 1727, 1742, 167 L.Ed.2d 705 (2007).” *In re Icon Health and Fitness, Inc.*, 496 F.3d 1374, 1379-80 (Fed. Cir. 2007).

Hindsight

It must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant’s disclosure, such a reconstruction is proper. *In re McLaughlin*, 443 F.2d 1392, 1395 (CCPA 1971).

Obviousness

"Section 103 forbids issuance of a patent when 'the differences between the subject matter sought to be patented and the prior art are such

that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.'" *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, ___, 127 S. Ct. 1727, 1734 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) where in evidence, so-called secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). *See also KSR*, 127 S. Ct. at 1734 ("While the sequence of these questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.")

The Supreme Court stated that in cases involving more than the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement, it will be necessary to "determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue." *Id.* at 1740-41. The Court noted that "[t]o facilitate review, this analysis should be made explicit." *Id.* (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) ("[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness"))).

DISCUSSION

Issue (1)

Independent claims 16, 43, 44, and 45 recite "...a substantially flat material...wherein the material is substantially the size of a mattress"

(underlining added). The Examiner's basis for the rejection, as articulated on page 3 of the Answer³, is that it is improper "to compare the features of the claimed invention to elements that are not part of the claimed invention."

We fully appreciate the Examiner's criticism of the claim language alluded to in the rejection. However, independent claims 16, 43, 44, and 45 are drawn to a "rescue underlay for a mattress" that requires a "substantially flat material...[that] is substantially the size of a mattress." We agree with the Examiner that claims 16, 43, 44, and 45 do not positively include a mattress as part of the claimed invention. Moreover, neither the claims nor the Appellant's Specification specify the dimensions of the mattress referred to in the claims. Further, as acknowledged by both the Examiner (Ans. 10) and the Appellant (Reply Br. 6), mattresses come in a variety of standard sizes, including crib, twin, full, queen, and king. In all of these respects, the Appellant's claim is very similar to the claim at issue in *Orthokinetics*. Claim 1 in *Orthokinetics* was directed to a wheel chair and recited that the front leg portion of the chair "is so dimensioned as to be insertable through the space between the doorframe of an automobile and one of the seats thereof." *Id.* at 1568. The Federal Circuit held the "so dimensioned" limitation is definite. The court appreciated that the claims in that case require "that one desiring to build and use a travel chair must measure the space between the selected automobile's doorframe and its seat and then dimension the front legs of the travel chair so they will fit in that particular space in that particular automobile." *Id.* at 1576. Nevertheless, the court noted the fact that "a particular chair on which the claims read may fit within

³ We refer herein to the Appeal Brief ("App. Br."), filed June 26, 2007, the Reply Brief ("Reply Br."), filed February 11, 2008, and the Examiner's Answer ("Ans."), mailed December 13, 2007.

some automobiles and not others is of no moment.” *Id.* The court stated that:

As long as those of ordinary skill in the art realized that the dimensions could be easily obtained, § 112, 2d ¶ requires nothing more. The patent law does not require that all possible lengths corresponding to the spaces in hundreds of different automobiles be listed in the patent, let alone that they be listed in the claims.

Id.

The definiteness of claim language, however, must be analyzed, not in a vacuum, but always in light of the teachings of the prior art and of the particular application disclosure as it would be interpreted by one possessing the ordinary level of skill in the pertinent art. *In re Johnson*, 558 F.2d 1008, 1015 (CCPA 1977). When read in light of the Appellant’s Specification, which teaches that the “underlay mat 4 has approximately the dimensions of the mattress 1” and the underlay mat is secured to the mattress (FF 7), a person of ordinary skill in the art would appreciate that the claimed “flat material” of the rescue underlay is approximately the size of the mattress (substantially the size of a mattress) to which it is to be secured. Such a person would further appreciate that mattresses are manufactured in a finite number of known standard sizes (crib, twin, full, queen, king). Therefore, as the size of the mattress is known, from among a finite number of standard sizes, a person of ordinary skill in the art would know what is the size of the “flat material” because, it is “substantially the same size” (approximately) as the size of the mattress. That the claims encompass “flat materials” of approximately the size of a number of standard mattress sizes does not render the claims indefinite.

In light of the above, we conclude that claims 16, 43, 44, and 45 are not indefinite under 35 U.S.C. § 112, second paragraph, for failing to particularly point and distinctly claim the subject matter which the Appellant regard as the invention. Therefore, the rejection of claims 16, 43, 44, and 45, and claims 17-18 and 20-42 that depend from claim 16, cannot be sustained.

Issue (2)

The Appellant argues the rejection under 35 U.S.C. § 103(a) of claims 16, 18, 22-24, 26-27, 33, 34, and 42-45 together as a group. Therefore, in accordance with 37 C.F.R. 41.37(c)(1)(vii)(2008), we have selected claim 16 as the representative claim to decide the appeal, with claims 18, 22-24, 26-27, 33, 34, and 42-45 standing or falling with claim 16. In view of Appellant's arguments, we will address the rejection of claims 17, 20, 21, 28, 30-31, and 35-41 separately.

Claims 16, 18, 22-24, 26-27, 33, 34, and 42-45

Claim 16 recites the limitation of "a substantially flat material comprising spacer woven fabric...wherein the material is substantially the size of a mattress" (underlining added). The Appellant argues that the combination of Hemphill and Böttger, as proposed by the Examiner, does not specifically teach an underlay that (1) provides spring travel and (2) is substantially the size of the mattress (App. Br. 16).

With respect to the Appellant's first point, the Examiner takes the position that the corrugations 3 of Hemphill provide spring travel (Ans. 4). The Appellant contends that the corrugations of Hemphill do not provide spring travel (App. Br. 18). However, the Appellant does not provide any

evidence that the corrugations 3 of Hemphill do not provide spring travel. An attorney's arguments in a brief cannot take the place of evidence. *In re Pearson*, 494 F.2d 1399, 1405 (CCPA 1974). In any event, the Appellant's argument appears to be directed to the teachings of Hemphill alone, and not to the combination of Hemphill and Böttger relied upon by the Examiner. Nonobviousness cannot be established by attacking the references individually when the rejection is predicated upon a combination of prior art disclosures. *See In re Merck & Co. Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986). The Appellant has not alleged, much less shown, that the substitution of a spacing fabric as taught Böttger for the support member 2 of Hemphill as proposed by the Examiner would not provide the characteristic of spring travel called for in the claim.

Regarding the Appellant's second point, pointing to Figure 1 of Hemphill, the Appellant notes Hemphill discloses "a mattress (M), a rectangular base sheet (1) that is substantially the size of the mattress, and a support member (2) that is substantially smaller than the mattress" (App. Br. 16). As such, according to the Appellant, "Hemphill does not teach a rescue underlay that provides spring travel and is *substantially the size of the mattress*" (App. Br. 18) (italics in original). In other words, in the Appellant's view, the support member (2) of Hemphill satisfies the "substantially flat material" limitation of claim 16. However, in contrast to the Appellant's view, the Examiner contends that the limitation of a "substantially flat material," as recited in claim 16, reads on the rectangular base sheet 1 together with the relatively rigid support 2 of Hemphill (Ans. 4). The Appellant and the Examiner disagree as to which structure of Hemphill constitutes "a substantially flat material." The confusion appears to stem from the Appellant's use of the open-ended transitional phrase

“comprising” immediately after positively reciting the limitation of a “substantially flat material.” By using the transitional phrase “comprising” immediately after the limitation of a “substantially flat material,” the breadth of claim 16 is not as limiting as the Appellant would have us believe. Specifically, the claim language is broad enough such that the claimed “substantially flat material” may include other elements in addition to the “spacer woven fabric.” Hence, we find that a person of ordinary skill in the art would reasonably construe the claimed “substantially flat material” to read on the rectangular base sheet 1 together with the relatively rigid support 2 of Hemphill. Under such a construction, we find that Hemphill discloses an evacuation restraint having a rectangular base sheet 1 with a relatively rigid support 2 (substantially flat material) and a central rectangular sheet 3 of corrugated board (FF 1 and 4). Moreover, the rectangular base sheet 1 with the relatively rigid support 2 (substantially flat material) is “substantially the size of the mattress” (FF 5). In conclusion, we agree with the Examiner that Hemphill discloses a “substantially flat material (1, 2) wherein the material is substantially the size of a mattress”(Ans. 4).

The Appellant further argues that the teachings of Hemphill are not combinable with the teachings of Böttger because: (1) Hemphill and Böttger teach away from the Appellant’s claimed invention (App. Br. 19-20); (2) the teachings of Hemphill and Böttger are non-analogous art (App. Br. 23); and (3) the Examiner’s motivation to combine the teachings of Hemphill and Böttger uses hindsight (App. Br. 24).

With respect to the Appellant’s first point, the Appellant contends that because Hemphill discloses a “rigid flat surface,” the teachings of Hemphill are “contrary to the purpose of the present invention which is a rescue underlay that provides spring travel” (App. Br. 20). However, as noted

above, the Appellant has not shown that the substitution of a spacing fabric as taught Böttger for the support member 2 of Hemphill as proposed by the Examiner would not provide the characteristic of spring travel called for in the claim. In any event, the characteristic of rigidity does not appear to be at odds with the type of spring travel characteristic afforded by a spacing fabric of the type discussed by Böttger, which Böttger characterizes as having “rigidity” (FF 10).

The Appellant further argues that the spacer fabric described in Böttger also teaches away from the claimed invention because its mode of operation, which requires expansion under heat, would not be suitable in an emergency environment where people need to be rescued (App. Br. 21-22). The Appellant’s argument is not persuasive because obviousness does not require that all of the features of the secondary reference be bodily incorporated into the primary reference. *In re Keller*, 642 F.2d 413, 425 (CCPA 1981). We agree with the Examiner that a person of ordinary skill in the art would readily appreciate that the heat expansion of the spacer fabric of Böttger would be performed prior to its mounting to the evacuation restraint of Hemphill (Ans. 11). After all, “[a] person of ordinary skill is also a person of ordinary creativity, not an automaton.” *KSR Int’l. Co. v. Teleflex Inc.*, 550 U.S. 398, ___, 127 S. Ct. 1727, 1742 (2007).

In conclusion, we find no disclosure in Hemphill, and the Appellant has not pointed to any such disclosure, which would discourage a person of ordinary skill in the art from using the spacing fabric of Böttger to form the rigid support 2 of Hemphill. Moreover, we note that the evacuation restraint of Hemphill is designed to have a partial (central) reinforcement, ostensibly making it a suitable application for the sectional reinforcement mode suggested by the spacer fabric of Böttger (FF 11). Therefore, we find that

the disclosures of Hemphill and Böttger do not teach away from the Appellant's claimed invention.

Regarding the Appellant's second point, the Appellant contends that Böttger is not in the field of the Appellant's endeavor. First, we note that Hemphill is in the same field of endeavor as Appellant's invention of providing an evacuation restraint for positioning under the mattress of a patient in a hospital or other institution housing bed-confined persons (FF 7). Second, although we agree with the Appellant that Böttger is not in the Appellant's field of endeavor. Nonetheless, Böttger addresses the problem of providing rigidity to structural components (FF 10), a need or problem known in the Appellant's field of endeavor, particularly, in the form of providing rigidity over a portion of the underlay to permit sliding (FF 6). We note that ease of sliding is also an objective/problem addressed by the Appellant (FF 13). Hence, the teachings of Böttger would have commended themselves to an inventor's attention in considering this problem. The question is not whether the combination was obvious to Appellant but whether it was obvious to a person with ordinary skill in the art. Thus, "[u]nder the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed." *KSR*, 127 S. Ct. at 1742. In this case, Hemphill teaches that the rigid support 2 helps the restraint slide over floors (FF 6). Böttger teaches using spacing fabric to reinforce structural components of many types, and "in particular, where only sections of a sheet metal plate or the like is to be reinforced" (FF 11). This is exactly the type of use Hemphill describes, that is, reinforcing only the central portion of the base sheet 1 of flexible fabric. As such, we find that Hemphill and Böttger are analogous art to the Appellant's invention.

Regarding the Appellant's third point, Hemphill discloses an evacuation restraint having a rectangular base sheet 1 reinforced with a central, relatively rigid support 2 (FF 1). The objective of the rigid support 2 of Hemphill is to provide a relatively rigid flat surface to allow the evacuation restraint to slide over floors, stairs, and obstructions (FF 6). Böttger teaches using spacing fabric to reinforce structural components of many types, and "in particular, where only sections of a sheet metal plate or the like is to be reinforced" (FF 11). Hence, we agree with the Examiner that it would have been obvious for a person of ordinary skill in the art to substitute the rigid support of Hemphill with the spacer fabric of Böttger (Ans. 6), because it is no more than "the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement." *KSR* at 1740. Therefore, the substitution appears to be the product not of innovation but of ordinary skill and common sense. Moreover, the Appellant does not provide any evidence to show that modification of Hemphill to provide the spacer fabric of Böttger would have been beyond the technical grasp of a person of ordinary skill in the art.

For the foregoing reasons, the Appellant's arguments do not persuade us the Examiner erred in rejecting claim 16, and claims 18, 22-24, 26-27, 33, 34, and 42-45 standing or falling with claim 16, as unpatentable over Hemphill in view of Böttger. Therefore, the rejection of claim 16, and claims 18, 22-24, 26-27, 33, 34, and 42-45 standing or falling with claim 16, is sustained.

Claim 17

The Appellant argues that Hemphill does not disclose a “mattress retaining band,” as required by claim 17 (App. Br. 26-27). The Examiner takes the position that the loops 16 and 19 of Hemphill constitute a “mattress retaining band” (Ans. 4). We agree with the Examiner. The Appellant describes the “mattress retaining band” as merely “connecting” the underlay mat to the mattress (FF 14). In Hemphill, loops 16 and 19 connect the mattress to the base sheet 1 (underlay) when the loops 16 and 19 engage straps 22 and 23 to envelope the patient and the mattress (FF 8). Therefore, we find that the loops 16 and 19 of Hemphill constitute a “mattress retaining band,” as required by claim 17. As such, the rejection of claim 17 is sustained.

Claim 20

The Examiner contends that the limitation of a “knitted fabric” does not carry patentable weight because it is drawn to the process of forming the spacer fabric (Ans. 6). In response, the Appellant argues that “knitted fabrics” have structural characteristics that need to be taken into consideration (App. Br. 27-28). We find the Appellant’s argument persuasive. The Appellant’s invention specifically differentiates between the structure of a spacer “woven” fabric and a spacer “knitted” fabric in that the knitted fabric has a greater width of stitch link (FF 15). Furthermore, the ordinary and customary meaning of “knit” is “1. to make (cloth or a piece of clothing) by looping yarn or thread together with special needles 2. to form into cloth in this way instead of by weaving.” *Webster's New World Dictionary* 780 (David B. Guralnik ed., 2nd Coll. Ed., Simon & Schuster, Inc. 1984). Hence, the structure of a “woven” fabric is different than the

structure of a “knitted” fabric. Böttger discloses a woven spacing fabric (FF 10). In conclusion, we agree with the Appellant that the teachings of Hemphill and Böttger do not show a “knitted spacer fabric.” As such, the rejection of claim 20 as unpatentable over Hemphill in view of Böttger cannot be sustained.

Claim 21

The Appellant argues that neither Hemphill nor Böttger disclose that the thickness of the spacer fabric is from about 4 mm to about 20 mm (App. Br. 28). In response, the Examiner takes the position that the thickness of the spacer fabric is optimizable (Ans. 7). One with ordinary skill in the art does not need to be told specifically of an exact "thickness" before he or she can proceed with the design and construction of the spacer fabric of Böttger for reinforcing the restraint of Hemphill. The choice of a desirable thickness is within the basic skill and ordinary creativity possessed by one with ordinary skill in the art. At a minimum, Böttger would appear to suggest that one with ordinary skill in the art can choose any desirable thickness as Böttger does not specifically disclose any particular dimensions.

A person of ordinary skill in the art of reinforcing structural layers would have known that the thickness of spacer fabric is based on a variety of ordinary design and construction considerations, *e.g.*, the desired mechanical strength of the spacer fabric (for example a higher strength requires a thicker spacer fabric), the type of material (material characteristics), the surface area of the spacer fabric (a higher surface area may require a smaller thickness). Similarly, a person of ordinary skill in the art of reinforcing structural layers would have also known that the thickness of the spacer fabric is also determined by the characteristics of the material being reinforced. The

Appeal 2008-4439
Application 10/649,152

Appellant argues that neither Hemphill nor Böttger teaches a specific numerical value for the thickness of the reinforcing spacer fabric. However, as discussed above, a person of ordinary skill in the art must take into account a variety of considerations when constructing a reinforcing spacer fabric. The Examiner reasonably determined that in light of the teachings of Hemphill and Böttger, a person of ordinary skill and creativity in the art of reinforcing structural layers would have known to construct a spacer fabric having a thickness that satisfies the Appellant's claimed invention. Lastly, we note that the prosecution record does not provide us with any indication as to the criticality of the claimed thickness range from about 4 mm to about 20 mm. In conclusion, the rejection of claim 21 as unpatentable over Hemphill in view of Böttger is sustained

Claims 28 and 30

The Appellant argues that Hemphill does not disclose that the underside of the restraint (underlay) is washable and readily disinfected (App. Br. 29-30). Hemphill discloses a Teflon coating (FF 2). Teflon is "washable" (capable of being washed) and can be disinfected, for example when washed with antibacterial soap. Furthermore, we note that the invention of Hemphill is used in a hospital setting (FF 7), hence it is not unreasonable to assume that it is routinely disinfected. As such, the rejection of claims 28 and 30 as unpatentable over Hemphill in view of Böttger is sustained.

Claim 31

Regarding claim 31, the Examiner relies on common knowledge to assert that it would have been obvious for a person of ordinary skill in the art to modify the restraint of Hemphill and Böttger and provide a braking surface in order “to restrict the mobility of the mattress on the underlay” (Ans. 9). However, the Examiner has not provided any factual basis to show that a person of ordinary skill in the art would readily understand that the restraint of Hemphill and Böttger would include a braking surface. Hemphill discloses that the purpose of the rigid support 2 is to provide a relatively rigid flat surface to allow the evacuation restraint to slide over floors, stairs, and obstructions when in use (FF 6). Neither Hemphill nor Böttger discloses or suggests a sliding surface having a braking surface. Moreover, Hemphill appears to teach away from providing a braking surface because the rigid support 2 includes a low friction Teflon coating (FF 2). We do not find that the Examiner has established a factual basis to show a braking surface in the restraint of Hemphill and Böttger and a person of ordinary skill would not readily understand this to be the case. Accordingly, the modification proposed by the Examiner of providing a braking surface in the structure of Hemphill or Böttger would not have been obvious to the person of ordinary skill in the art. For the above stated reasons, we conclude that the Examiner has not discharged the initial burden of establishing a prima facie case of obviousness of the subject matter of claim 31. The rejection of claim 31 as unpatentable over Hemphill in view of Böttger is reversed.

Claims 35-38

With respect to claims 35-38, the Examiner relies on common knowledge to assert that it would have been obvious for a person of ordinary skill in the art to modify the restraint of Hemphill and Böttger and provide tunnel-like receptions for the patient securing belts in order “to protect the [belts] against wear during use, and to permit movement and/or replacement of the belts” (Ans. 9). However, the Examiner has not provided any factual basis to show that a person of ordinary skill in the art would readily understand that the restraint of Hemphill and Böttger would include tunnel-like receptions for the patient securing belts. Hemphill does not disclose or suggest any type of mechanism for securing the belts 20 and 21 when not in use (FF 9). Furthermore, Hemphill appears to teach away from providing tunnel-like receptions for the patient securing belts. Hemphill discloses an evacuation restraint that includes a rectangular base sheet 1 of flexible fabric (polyester) and a relatively rigid support 2 (FF 1). In other words, Hemphill discloses a substantially flat restraint which would not allow for the presence of tunnel-like receptions for the patient securing belts. As such, we do not find that the Examiner has established a factual basis to show tunnel-like receptions for the patient securing belts in the restraint of Hemphill and Böttger and a person of ordinary skill would not readily understand this to be the case. Accordingly, the modification proposed by the Examiner of providing tunnel-like receptions for the patient securing belts in the structure of Hemphill nor Böttger would not have been obvious to the person of ordinary skill in the art. For the above stated reasons, we conclude that the Examiner has not discharged the initial burden of establishing a prima facie case of obviousness of the subject matter of claims 35-38. The rejection of claims 35-38 as unpatentable over Hemphill in view of Böttger is reversed.

Claim 39

With respect to claim 39, the Examiner asserts that it would have been obvious for a person of ordinary skill in the art to modify the restraint of Hemphill and Böttger and include an additional securing belt (Ans. 9). Hemphill specifically discloses two patient-securing belts 20 and 21 (FF 3). Providing an additional patient-securing belt would have been obvious to a person of ordinary skill in the art in order to have a back-up in case one of the two belts in the restraint of Hemphill and Böttger failed during an emergency. Moreover, we agree with the Examiner that mere duplication of parts has no patentable significance unless a new and unexpected result is produced (Ans. 9). *See e.g., In re Harza*, 274 F.2d 669, 671 (CCPA 1960). In conclusion, the rejection of claim 39 as unpatentable over Hemphill in view of Böttger is sustained.

Claims 40 and 41

With respect to claims 40 and 41, the Examiner asserts that it would have been obvious for a person of ordinary skill in the art to modify the restraint of Hemphill and Böttger to unitarily integrate the restraint and the mattress (Ans. 9). “The use of a one piece construction instead of the structure disclosed in [the prior art] would be merely a matter of obvious engineering choice.” *In re Larson*, 340 F.2d 965, 968 (CCPA 1965). In this case, a person of ordinary skill in the art would readily recognize that making the underlay integral with the mattress would have been advantageous to avoid storage of the underlay and to enhance emergency preparation. In conclusion, the rejection of claims 40 and 41 as unpatentable over Hemphill in view of Böttger is sustained.

Issue (3)

With respect to claim 25, which depends from independent claim 16, the Appellant points out that Failor does not overcome the perceived deficiencies of Hemphill and Böttger (App. Br. 30). However, for the reasons discussed above with respect to claim 16, the Appellant's arguments regarding the deficiencies of Hemphill and Böttger are not persuasive. Hence, the Appellant's argument does not persuade us that the Examiner erred in rejecting claim 25. Accordingly, the rejection of claim 25 under 35 U.S.C. § 103(a) as unpatentable over Hemphill in view of Böttger and further in view of Failor is sustained.

SUMMARY

The decision of the Examiner to reject claims 16-18 and 20-45 under 35 U.S.C. § 112, second paragraph, as being indefinite is reversed.

The decision of the Examiner to reject claims 16-18, 20-24, 26-28, 30, 31, and 33-45 under 35 U.S.C. § 103(a) as unpatentable over Hemphill in view of Böttger is affirmed as to claims 16-18, 21-24, 26-28, 30, 33-34, and 39-45 and reversed as to claims 20, 31, and 35-38.

The decision of the Examiner to reject claim 25 under 35 U.S.C. 103(a) as unpatentable over Hemphill in view of Böttger and in further view of Failor is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2008).

AFFIRMED-IN-PART

Appeal 2008-4439
Application 10/649,152

LV:

ECOLAB INC.
MAIL STOP ESC-F7, 655 LONE OAK DRIVE
EAGAN, MN 55121